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Resource control method for radio communication system - dividing resources in chronologically consecutive frames which contain slots of various sizes to be allocated to different radio connections, with one dimension of frame being time

Patent Assignee: NOKIA CORP (OYNO); NOKIA MOBILE PHONES LTD (OYNO)

Inventor: AHMAVAARA K; RIKKINEN K; RINNE M; RINNE M J

Patent Family (15 patents, 24 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 841763	A1	19980513	EP 1997660109	A	19971016	199823	B
FI 199604308	A	19980426	FI 19964308	A	19961025	199833	E
JP 10190621	A	19980721	JP 1997292991	A	19971024	199839	E
CN 1205604	A	19990120	CN 1997122743	A	19971024	199922	E
BR 199705138	A	19990518	BR 19975138	A	19971024	199925	E
KR 1998033158	A	19980725	KR 199754860	A	19971024	199932	E
FI 104142	B1	19991115	FI 19964308	A	19961025	200001	E
US 6031827	A	20000229	US 1997802645	A	19970219	200018	E
EP 841763	B1	20031210	EP 1997660109	A	19971016	200405	E
DE 69726697	E	20040122	DE 69726697	A	19971016	200415	E
			EP 1997660109	A	19971016		
JP 3542705	B2	20040714	JP 1997292991	A	19971024	200446	E
ES 2212066	T3	20040716	EP 1997660109	A	19971016	200447	E
CN 1115899	C	20030723	CN 1997122743	A	19971024	200548	E
IN 199702396	I4	20061020	IN 1997CH2396	A	19971023	200675	E
KR 491326	B	20050930	KR 199754860	A	19971024	200680	E

Priority Applications (no., kind, date): FI 19964308 A 19961025; US 1997802645 A 19970219; EP 1997660109 A 19971016

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes		
EP 841763	A1	EN	35	12			
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE						
JP 10190621	A	JA	23	18			
BR 199705138	A	PT					
KR 1998033158	A	KO		18			
FI 104142	B1	FI			Previously issued patent	FI 9604308	
EP 841763	B1	EN					
Regional Designated States,Original	DE ES FR GB IT NL SE						
DE 69726697	E	DE			Application	EP 1997660109	
					Based on OPI patent	EP 841763	

JP 3542705	B2	JA	29		Previously issued patent	JP 10190621
ES 2212066	T3	ES			Application	EP 1997660109
					Based on OPI patent	EP 841763
IN 199702396	I4	EN				
KR 491326	B	KO			Previously issued patent	KR 98033158

Alerting Abstract EP A1

The method involves controlling the physical radio resources in a radio system including a base station and several mobile units. The resources are divided into chronologically consecutive frames (14) which contain two-dimensional slots (16-18) having varying data transmission capacities. The data transmission capacity of each slot is determined by the dimensions of the slot, and at least one frame contains slots of different transmission capacities.

Each slot represents a given share of the physical resources contained in the frame. A multitude of slots in at least one frame are each dynamically assignable for the use of a given radio connection for the duration of the frame. The first dimension of the slots is time and the second dimension is either time, frequency, or code.

USE - E.g. for cellular radio system particularly where user's data transmission requirements change rapidly in terms of quality and quantity.

ADVANTAGE - Flexible and dynamic allocation of resources.

Title Terms /Index Terms/Additional Words: RESOURCE; CONTROL; METHOD; RADIO; COMMUNICATE; SYSTEM; DIVIDE; CHRONOLOGICAL; CONSECUTIVE; FRAME; CONTAIN; SLOT; VARIOUS; SIZE; ALLOCATE; CONNECT; ONE; DIMENSION; TIME

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
H04B-007/204; H04B-007/26			Main		"Version 7"
H04Q-007/00			Secondary		"Version 7"
H04B-0007/26	A	I		R	20060101
H04J-0013/00	A	I	F	R	20060101
H04L-0012/56	A	I		R	20060101
H04Q-0007/36	A	I	L	R	20060101
H04Q-0007/38	A	I		R	20060101
H04B-0007/26	C	I		R	20060101
H04J-0013/00	C	I	F	R	20060101
H04L-0012/56	C	I		R	20060101
H04Q-0007/36	C	I	L	R	20060101
H04Q-0007/38	C	I		R	20060101

US Classification, Issued: 370335, 370347, 370343, 370468, 370330

File Segment: EPI;

DWPI Class: W01; W02

Manual Codes (EPI/S-X): W01-B05A1A; W02-C03C1A; W02-K03

Original Publication Data by Authority

Brazil

Publication No. BR 199705138 A (Update 199925 E)

Publication Date: 19990518

Assignee: NOKIA MOBILE PHONES LTD (OYNO)

Inventor: RIKKINEN K

AHMAVAARA K

RINNE M J

RINNE M

Language: PT

Application: BR 19975138 A 19971024 (Local application)

Priority: FI 19964308 A 19961025

US 1997802645 A 19970219

Original IPC: H04Q-7/28(A)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,L) H04Q-7/36(R,I,M,JP,20060101,20051220,C,L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

China

Publication No. CN 1115899 C (Update 200548 E)

Publication Date: 20030723

Assignee: NOKIA MOBILE PHONES LTD; FI (OYNO)

Language: ZH

Application: CN 1997122743 A 19971024 (Local application)

Priority: FI 19964308 A 19961025

US 1997802645 A 19970219

Original IPC: H04Q-7/22(A)

Current IPC: H04B-7/26(R,A,I,M,EP,20060101,20051008,A) H04B-7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,L) H04Q-7/36(R,I,M,JP,20060101,20051220,C,L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Publication No. CN 1205604 A (Update 199922 E)

Publication Date: 19990120

Assignee: NOKIA MOBILE PHONES LTD; FI (OYNO)
Language: ZH
Application: CN 1997122743 A 19971024 (Local application)
Priority: FI 19964308 A 19961025
US 1997802645 A 19970219
Original IPC: H04Q-7/22(A)
Current IPC: H04B-7/26(R,A,I,M,EP,20060101,20051008,A) H04B-7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,L) H04Q-7/36(R,I,M,JP,20060101,20051220,C,L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Germany

Publication No. DE 69726697 E (Update 200415 E)
Publication Date: 20040122
Assignee: NOKIA CORP; FI (OYNO)
Language: DE
Application: DE 69726697 A 19971016 (Local application)
EP 1997660109 A 19971016 (Application)
Priority: FI 19964308 A 19961025
US 1997802645 A 19970219
Related Publication: EP 841763 A (Based on OP1 patent)
Original IPC: H04B-7/26(A) H04B-7/26(A)
Current IPC: H04B-7/26(A) H04B-7/26(A)

EPO

Publication No. EP 841763 A1 (Update 199823 B)
Publication Date: 19980513
Verfahren zur Funkkapazitaetskontrolle
Method for radio resource control
Procede de controle de ressources radio
Assignee: NOKIA MOBILE PHONES LTD., Keilalahdentie 4, 02150 Espoo, FI (OYNO)
Inventor: Rikkinen, Kari, Suotie 19 D 23, 90650 Oulu, FI
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Rinne, Mika, Kourakuja 3 B 10, 02320 Espoo, FI
Agent: Johansson, Folke Anders et al, Nokia Mobile Phones Ltd., P.O. Box 100, 00045 Nokia Group, FI
Language: EN (35 pages, 12 drawings)
Application: EP 1997660109 A 19971016 (Local application)
Priority: FI 19964308 A 19961025
US 1997802645 A 19970219
Designated States: (Regional Original) AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL

PT SE

Original IPC: H04B-7/26(A)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,L) H04Q-7/36(R,I,M,JP,20060101,20051220,C,L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Original Abstract: In order to control the use of physical radio resources, the physical radio resources are divided into chronologically consecutive frames (14), so that a frame contains slots (16, 17, 18) of various sizes, which slots represent a given share of the physical radio resources contained in the frame and can be individually allocated to different radio connections. The first dimension of a frame is time and the second dimension can be time, frequency or code. In the direction of the second dimension the slots represent various sizes, and a given first integral number of slots of the first size can be modularly replaced by another integral number of slots of another size. A certain number of consecutive frames form a superframe (19), in which case frames with corresponding locations in consecutive superframes are equal in slot division and allocations, if the data transmission demands do not change. Changes in the state of occupancy of the slots are possible at each superframe. In order to form an uplink connection, the mobile station sends a capacity request, where it indicates the type of requested connection and the demand of resources. In order to form a downlink connection, the base station subsystem sends a paging call, where it indicates the location in the superframe of the slots allocated to the connection. In order to indicate the state of occupancy, the base station subsystem maintains a superframe-size parametrized reservation table.

Claim:

- 1. A method for controlling physical radio resources in a radio system comprising a base station subsystem and several mobile stations in radio connection thereto, characterised in that the physical radio resources are divided into chronologically consecutive frames (14), said frames containing two-dimensional slots (16, 17, 18) having varying data transmission capacities, in which case
 - the data transmission capacity of each slot is determined by the dimensions of the slot, and at least one frame contains slots of different data transmission capacities,
 - each slot represents a given share of the physical resources contained in the frame,
 - a multitude of slots in at least one frame are each dynamically assignable for the use of a given radio connection for the duration of the frame,
 - the first dimension of the slots is time and the second dimension of the slots is one of the following: time, frequency, code; and the base station subsystem makes a decision of allocating the slots for the radio connections on the basis of
 - the data transmission needs of the radio connections,
 - the changes in the data transmission needs of the radio connections, and
 - the size and state of occupancy of the slots.

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Publication Date: 20031210

Verfahren zur Funkkapazitätskontrolle

Method for radio resource control

Procede de controle de ressources radio

Assignee: Nokia Corporation, Keilalahdentie 4, 02150 Espoo, FI (OYNOE)

Inventor: Rikkinen, Kari, Yrittajankatu 34-36 C, FIN-04460 Nummenkylä, FI

Rinne, Mikko J., Verajankorva 3, 00650 Helsinki, FI

Ahmavaara, Kalle, Ramsaynranta 1 A 7, 00330 Helsinki, FI

Rinne, Mika, Kourakuja 3 B 10, 02320 Espoo, FI

Agent: Johansson, Folke Anders, Nokia Corporation, P.O. Box 226, 00045 Nokia Group, FI

Language: EN

Application: EP 1997660109 A 19971016 (Local application)

Designated States: (Regional Original) DE ES FR GB IT NL SE

Original IPC: H04B-7/26(A)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,L) H04Q-7/36(R,I,M,JP,20060101,20051220,C, L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Claim:

1. Verfahren zum Steuern physikalischer Funkressourcen in einem Funksystem mit einem Basisstations-Untersystem und mehreren Mobilstationen in Funkverbindung mit diesem, **dadurch gekennzeichnet, dass**
 - die physikalischen Funkressourcen in chronologisch aufeinanderfolgende Rahmen (14) unterteilt werden, wobei die Rahmen zweidimensionale Schlitze (16, 17, 18) mit variablen Datenübertragungskapazitäten enthalten, in welchem Fall
 - die Datenübertragungskapazität jedes Schlitzes durch die Dimensionen des Schlitzes bestimmt wird und mindestens ein Rahmen Schlitzes verschiedener Datenübertragungskapazitäten enthält;
 - jeder Schlitz einen vorgegebenen Anteil der im Rahmen enthaltenen physikalischen Ressourcen repräsentiert;
 - eine Anzahl von Schlitzten in mindestens einem Rahmen zur Verwendung bei einer vorgegebenen Funkverbindung für die Dauer des Rahmens dynamisch zuweisbar ist;
 - die erste Dimension der Schlitzes die Zeit ist und die zweite Dimension der Schlitzes eine der folgenden Größen ist: Frequenz, Code;
 - und das Basisstations-Untersystem eine Entscheidung betreffend das Zuordnen der Schlitzes für die Funkverbindungen auf Grundlage des Folgenden trifft:
 - der Datenübertragungserfordernisse der Funkverbindungen;
 - der Änderungen der Datenübertragungserfordernisse der Funkverbindungen, wie sie während derselben auftreten; und
 - der Belegungsgroße und des Belegungszustands der Schlitzes.

1. A method for controlling physical radio resources in a radio system comprising a base station subsystem and several mobile stations in radio connection thereto, **characterised in that** the physical radio resources are divided into chronologically consecutive frames (14), said frames containing two-dimensional slots (16, 17, 18) having varying data transmission capacities, in which case
 - the data transmission capacity of each slot is determined by the dimensions of the slot, and at least one frame contains slots of different data transmission capacities,
 - each slot represents a given share of the physical resources contained in the frame,
 - a multitude of slots in at least one frame are each dynamically assignable for the use of a given radio connection for the duration of the frame,
 - the first dimension of the slots is time and the second dimension of the slots is one of the following: frequency, code;
 and the base station subsystem makes a decision of allocating the slots for the radio connections on the basis of
 - the data transmission needs of the radio connections,
 - the changes in the data transmission needs of the radio connections occurring during the radio connections, and
 - the size and state of occupancy of the slots.

1. Procédé destiné à commander des ressources radiotéléphoniques physiques dans un système radiotéléphonique comprenant un sous-système de station de base et plusieurs stations mobiles en connexion radiotéléphonique avec celui-ci, **caractérise en ce que** les ressources radiotéléphoniques physiques sont divisées en des trames consécutives chronologiquement (14), lesdites trames contenant des tranches à deux dimensions (16, 17, 18) possédant des capacités de transmission de données variables, auquel cas
 - la capacité de transmission de données de chaque tranche est définie par les dimensions de la tranche, et au moins une trame contient des tranches de différentes capacités de transmission de données,
 - chaque tranche représente une part donnée des ressources physiques contenues dans la trame,
 - une multitude de tranches dans au moins une trame sont affectables dynamiquement pour l'utilisation d'une connexion radiotéléphonique donnée pour la durée de la trame,
 - la première dimension des tranches est le temps et la seconde dimension des tranches est l'un parmi les suivants: la fréquence, le code,
 - et le sous-système de station de base prend une décision d'allouer les tranches pour les connexions radiotéléphoniques sur la base
 - des besoins de transmission de données des connexions radiotéléphoniques,
 - des modifications des besoins de transmission de données des connexions radiotéléphoniques se produisant au cours des connexions radiotéléphoniques, et
 - de la taille et de l'état d'occupation des tranches.

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Publication Date: 20040716

Assignee: NOKIA CORP (OYNO)

Language: ES

Application: EP 1997660109 A 19971016 (Application)

Priority: FI 19964308 A 19961025

US 1997802645 A 19970219

Related Publication: EP 841763 A (Based on OP1 patent)

Original IPC: H04B-7/26(A)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-

7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,L) H04Q-7/36(R,I,M,JP,20060101,20051220,C,L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Finland

Publication No. FI 104142 B1 (Update 200001 E)

Publication Date: 19991115

Assignee: NOKIA MOBILE PHONES LTD (OYNO)

Inventor: RIKKINEN K

AHMAVAARA K

RINNE M J

RINNE M

Language: FI

Application: FI 19964308 A 19961025 (Local application)

Related Publication: FI 9604308 A (Previously issued patent)

Original IPC: H04Q-7/38(A) H04J-3/16(B)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-

7/26(R,I,M,EP,20060101,20051008,C) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Publication No. FI 199604308 A (Update 199833 E)

Publication Date: 19980426

Assignee: NOKIA MOBILE PHONES LTD (OYNO)

Inventor: RIKKINEN K

AHMAVAARA K

RINNE M J

RINNE M

Language: FI

Application: FI 19964308 A 19961025 (Local application)

Original IPC: H04Q-7/38(A) H04J-3/16(B)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-

7/26(R,I,M,EP,20060101,20051008,C) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-

7/38(R,I,M,EP,20060101,20051008,C)

India

Publication No. IN 199702396 I4 (Update 200675 E)

Publication Date: 20061020

Assignee: NOKIA MOBILE PHONES LTD; FI (OYNO)

Inventor: RIKKINEN K

AHMAVAARA K

RINNE M J

RINNE M

Language: EN

Application: IN 1997C112396 A 19971023 (Local application)

Priority: FI 19964308 A 19961025

US 1997802645 A 19970219

Original IPC: H04B-7/26(A) H04Q-7/00(B)

Current IPC: H04B-7/26(A) H04Q-7/00(B)

Japan

Publication No. JP 10190621 A (Update 199839 E)

Publication Date: 19980721

RADIO RESOURCE CONTROL METHOD

Assignee: NOKIA MOBILE PHONES LTD (OYNO)

Inventor: RIKKINEN KARI

AHMAVAARA KALLE

RINNE MIKKO J

RINNE MIKA

Language: JA (23 pages, 18 drawings)

Application: JP 1997292991 A 19971024 (Local application)

Priority: FI 19964308 A 19961025

US 1997802645 A 19970219

Original IPC: H04J-13/00(A) H04Q-7/36(B)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-

7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,I) H04Q-7/36(R,I,M,JP,20060101,20051220,C,L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Publication No. JP 3542705 B2 (Update 200446 E)

Publication Date: 20040714

Assignee: NOKIA MOBILE PHONES LTD (OYNO)

Language: JA (29 pages)

Application: JP 1997292991 A 19971024 (Local application)

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US 1997802645 A 19970219

Related Publication: JP 10190621 A (Previously issued patent)

Original IPC: H04J-13/00(A)

Current IPC: H04B-7/26(R,I,M,EP,20060101,20051008,A) H04B-

7/26(R,I,M,EP,20060101,20051008,C) H04J-13/00(R,I,M,JP,20060101,20051220,A,F) H04J-13/00(R,I,M,JP,20060101,20051220,C,F) H04L-12/56(R,I,M,EP,20060101,20060722,A) H04L-12/56(R,I,M,EP,20060101,20060722,C) H04Q-7/36(R,I,M,JP,20060101,20051220,A,L) H04Q-7/36(R,I,M,JP,20060101,20051220,C,L) H04Q-7/38(R,I,M,EP,20060101,20051008,A) H04Q-7/38(R,I,M,EP,20060101,20051008,C)

Korea

Publication No. KR 491326 B (Update 200680 E)

Publication Date: 20050930

Assignee: NOKIA MOBILE PHONES LTD (OYNO)

Language: KO

Application: KR 199754860 A 19971024 (Local application)

Priority: FI 19964308 A 19961025

US 1997802645 A 19970219

Related Publication: KR 98033158 A (Previously issued patent)

Original IPC: H04B-7/204(A)

Current IPC: H04B-7/204(A)

Publication No. KR 1998033158 A (Update 199932 E)

Publication Date: 19980725

Assignee: NOKIA MOBILE PHONES LTD (OYNO)

Language: KO (18 drawings)

Application: KR 199754860 A 19971024 (Local application)

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Current IPC: H04B-7/204(A)

United States

Publication No. US 6031827 A (Update 200018 E)

Publication Date: 20000229

Method for radio resource control.

Assignee: Nokia Mobile Phones Limited, Salo, FI (OYNO)

Inventor: Rinne, Mikko, Helsinki, FI

Rinne, Mikko, Helsinki, FI

Rikkinen, Kari, Oulu, FI

Ahmavaara, Kalle, Helsinki, FI

Agent: Perman & Green, LLP

Language: EN

Application: US 1997802645 A 19970219 (Local application)

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Original Abstract: In order to control the use of physical radio resources, the physical radio resources are divided into chronologically consecutive frames (14), so that a frame contains slots (16, 17, 18) of various sizes, which slots represent a given share of the physical radio resources contained in the frame and can be individually allocated to different radio connections. The first dimension of a frame is time and the second dimension can be time, frequency or code. In the direction of the second dimension the slots represent various sizes, and a given first integral number of slots of the first size can be modularly replaced by another integral number of slots of another size. A certain number of consecutive frames form a superframe (19), in which case frames with corresponding locations in consecutive superframes are equal in slot division and allocations, if the data transmission demands do not change. Changes in the state of occupancy of the slots are possible at each superframe. In order to form an uplink connection, the mobile station sends a capacity request, where it indicates the type of requested connection and the demand of resources. In order to form a downlink connection, the base station subsystem sends a paging call, where it indicates the location in the superframe of the slots allocated to the connection. In order to indicate the state of occupancy, the base station subsystem maintains a superframe-size parametrized reservation table.

Claim:

1. A method for controlling physical radio resources in a radio system comprising a base station subsystem and several mobile stations in radio connection thereto, comprising the steps of:
 - dividing the physical radio resources into chronologically consecutive frames, said frames containing two-dimensional integral slots having varying data transmission capacities,
 - sizing each integral slot to represent a given share of the physical resources contained in the frame, and
 - separately allocating each slot to the use of a given radio connection.